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IPT 564, Fall 2010
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Literature Review: *Tell Me A Story*

We all love stories. Bedtime stories, stories around the water cooler, aviation stories told by President Uchtdorf in General Conference. Abraham Lincoln was loved by many (and scorned by not a few) because of his propensity to respond to any situation with “That reminds me of a story....” As I listen to the young adult novel *Goose Girl* for my upcoming book club (in which we will share the stories which touch us most), I can tell that storytelling will be increasingly important as the tale continues. In *Tell Me A Story*, author Roger Schank explains how stories are powerful not merely as entertainment but as the very core of knowledge and intelligence. As he does so, he delves into issues of understanding, memory, indices, culture, and artificial intelligence. In this review, I will summarize the key points of each chapter, and comment on what I found to be most compelling or significant.

Schank opens Chapter 1 (“Knowledge is Stories”) by explaining the concepts of *reminding* (“the mind’s method of coordinating past events with current events to enable generalization and prediction” (p. 1)) and *scripts* (sets “of expectations about what will happen next in a well-understood situation” (p. 7)), both of which function as segues into a discussion of knowledge, intelligence, and stories. For Schank, knowledge “is experiences and stories, and intelligence is the apt use of experience and the creation and telling of stories.... In the end all we have, machine or human, are stories and methods of finding and using those stories” (p. 16). With intelligence defined as “the ability to tell the right story at the right time, *understanding* a story means being able to correlate the story we are hearing with one that we already know” (p. 21, italics added). To make this correlation, we must construct labels (or indices) which can be used to retrieve similar situations. We then show understanding through “responsive storytelling,” and conversations “are really a series of reminding of already-processed stories” (p. 24). As we search for a comparable story to share in conversation, we are not trying to remember every detail of the original experience, but to find the “gist” of a story, which we can then transform into language and thus into conversation (p. 25). Schank closes the chapter by explaining the interactions between stories, gists, language, and conversation:

[T]he problem of generating language can be reduced to the problem of selecting the gist or gists of thousands or millions of not necessarily conscious ideas to be transformed into a particular linguistic expression.... [T]aking one’s part in a conversation means no more than searching for what one has already thought up and

saying it.... Even innovative thinking relies upon the mechanisms of reminding and the transformation of existing stories to new situations. (p. 26)

These provocative statements left me with much to chew on. I'm a horrible joke teller, because I never remember the details of the storyline: does this mean I am missing a key part of intelligence? What is creativity, if everything relies on merely transforming the old into something new? How do we better index our memories, so that we may more readily be reminded and have the "just right" story to share in conversation? Schank does tackle some of these questions in subsequent chapters.

Chapter 2 is entitled "Where Stories Come From and Why We Tell Them." Schank begins by classifying stories into five basic types: official, invented (adopted), firsthand experiential, secondhand, and culturally common. Official stories often state the position of a group and have a message to sell, "mak[ing] complex issues seem clearer than they might otherwise appear" (p. 32). Invented stories adapt previous stories, often have a point, and function as entertainment. Firsthand stories are told when we believe we have experienced something nonstandard and unusual, and yet are expressed in ways we believe will be appropriate to the listener. Secondhand stories often have clear points, and the indices to them are much more specific but much less rich. Finally, culturally common stories come from our environment, and are usually referred to rather than told in full. Regardless of the type of story, we tell them for one of three basic reasons: "First, we may derive some satisfaction from telling a story [Me-goals]. Second, we may derive satisfaction from the effect we believe...that a story will have on our listener [You-goals]. Or third, ... because of the effect we believe that a story will have on the conversation itself [Conversational goals]" (p. 41). Schank further elaborates each type and the subsets of reasons within them. He concludes the chapter by returning to one of the book's main points: "Intelligence means having stories to tell" and "To get human beings to be intelligent means getting them to have stories to tell and having them hear and perhaps use the stories of others" (p. 54). This may seem like a simple proposition, but in the next chapter Schank makes it clear just how difficult it may be to hear the stories of others.

In Chapter 3, "Understanding Other People's Stories," Schank explains the challenge of understanding: "Understanding ... means mapping the speaker's stories onto the listener's stories.... Different people understand the same story differently precisely because the stories they already know are different" (p. 57). To understand, according to Schank, a listener must match the indices of the speaker's story to stories in her own memory. In addition, another barrier arises because "[p]eople are only able to hear part of what is being said to them.... We cannot think about all the possible ramifications of something we are being told. So we pay attention to what interests us" (p. 57). When you combine these two arguments, the

conclusions make one wonder whether we ever get beyond the conclusions we have already come to, how we ever learn! Schank does have an answer, arguing that it is actually the anomalies, the failures to understand, that open us up to learning. “[W]e really only [learn] when the stories we hear relate to beliefs that we feel rather unsure of, ones that we are flirting with at the moment, so to speak. When we are wondering, consciously or unconsciously, about the truth..., then the evidence provided by others can be of some use” (p. 78). This seems a very narrow window of opportunity for learning, and makes me again think of the importance of asking good questions in teaching. Without questions that get the learner/listener to truly probe her own beliefs, according to Schank that learner cannot learn something new.

Schank opens Chapter 4 (“Indexing Stories”) with two questions: “How do we find the stories that we wish to tell?” and “How does one know that one has a story to tell?” (p. 84). To both, he answers with *indexing*. For Schank, “the bulk of what passes for intelligence is no more than a massive indexing and retrieval scheme” (p. 84-85). We create indices around the same elements we use to understand stories: “themes, goals, plans, and such” (p. 89). Once again, Schank connects the subject (indexing) to intelligence: “Indexing is a major problem that lies at the heart of intelligence. No intelligent system is likely to function effectively if it cannot find what it knows when it needs to know it.... [I]ntelligence depends on clever indexing..., [and] implies the creation and use of indices” (p. 112-113). And to reinforce the connection between stories and intelligence, he concludes the chapter by arguing that “...storytelling strongly reflects intelligence. Telling a good story at the right time is a hallmark of intelligence” (p. 112).

In “Shaping Memory” (Chapter 5), Schank delves into the world of memory creation and structure. He argues that we must tell our experiences to others (or to ourselves) as stories in order for us to remember them. Experiences “are constantly being broken up into their component pieces and are being added to general event memory bit by bit in different places, [so that] no coherent whole remains” (p. 122). While this updating of our general knowledge base each time we have a new experience is useful to us, it does destroy “the coherence between the particular instantiation of those events” (p. 123). Only when we tell of the experience as a story – extracting a gist and creating a story skeleton (see Chapter 6) – do we preserve “the connectivity of events that would otherwise be disassociated over time” (p. 124). Yet this process of composing and telling stories also has a profound effect on memory: “Memory tends to lose the original and keep the copy” (p. 138). Even more importantly, “[t]he story composition process reflects very strongly the view that the teller has of himself combined with the view that he wants others to have of him” (p. 138). For this reason, Schank problematizes the process of psychoanalysis, wherein the patient is encouraged to tell certain stories (and thus define themselves in a certain way) for the psychologist.

Chapter 6, entitled “Story Skeletons,” explores the story composition process even further. Certain words and phrases, Schank explains, function as names of complex stories “and thus serve to standardize particular situations” (p. 148). While understanding “complex situations in terms of standard stories provides an easy shorthand method for communication” (p. 149), these story skeletons are dangerous because we also have preestablished sets of reactions to them, and because we may see our own lives as these set stories instead of attending to the unique facts and situations. We may even choose to distort facts in order to fit a “well-known and culturally agreed upon skeleton” (p. 163). I have seen this happen, and unfortunately the truth may be ignored by those around the storyteller, because the “agreed upon skeleton” is easier to accept and believe. When a storyteller has a skeleton, they must also decide upon their “gist”, and then decide to *distill, combine, elaborate, create, caption, or adapt* elements to this gist in order to communicate what they hope their listeners will understand. For me, the most important lines of the chapter were the ones: “The stories we tell each other, we also tell ourselves. This has the odd effect of causing us to see our own lives in terms of preestablished, well-known stories that can obscure the ways in which our actual situation differs from the standard story” (147). This really made me pause: how much of my own self-conception is based on the actual situations in which I find myself, and how much is based on preestablished stories? Do I *like* the preestablished stories by which I define myself? What stories do I hold about those around me? Are they true to reality, or merely comfortable and “well-known”?

“Knowing the Stories of Your Culture” (Chapter 7) describes the function of stories in cultures and subcultures, as well as in our self-definition (vis-à-vis the surrounding culture). It is more difficult to understand someone from a different culture not merely because of language issues, but also because the speaker and listener share fewer implicit and explicit culturally common stories. “Understanding, in its deepest sense, depends upon shared stories” (p. 202). However, what I found most interesting, perhaps because my husband has been teaching “History of Creativity” at BYU and we have discussed the concept of creativity frequently of late, is what Schank had to say about creativity. He asks whether all is prescribed, or whether original thinking may truly occur, and argues that “much of what passes as original thinking is the coloration of neutral stories made relevant to new situations” (p. 189). Humans are creative, Schank says, “[w]hen forced to find an analogy between a general case and a specific case” (p. 190). For this reason, perhaps reading the horoscope can be viewed as an exercise in creativity! ☺

In his final chapter, “Stories and Intelligence,” Schank explains various dimensions of intelligence, and argues that the intelligent are those who use these dimensions or features to greater extent than do the less intelligent. These dimensions of intelligence are:

- 1) *Data-finding*: One aspect of intelligence is how well a system labels its experiences, using a consistent indexing system that enables the search process later on.
- 2) *Data manipulation*: "...[P]artial matching of one story to another is a critical aspect of human intelligence" (p. 226). When matches are not a complete fit, the intelligent and creative are able adopt old stories to the new situation.
- 3) *Comprehension*: It is difficult to comprehend anything that comes from a norm or context unusual to us. "Part of human intelligence is the ability to find a context for actions that we observe that make them comprehensible to us or allow us to dismiss them as irrelevant.... [I]ntelligence here means being interested in explaining as much as possible rather than explaining away as much as possible" (p. 228-229).
- 4) *Explanation*: When faced with expectation failures, we seek to explain the phenomenon and then discover new predictive rules. This line in particular made me think of how I answer my three year old's questions: "Learning to explain phenomena such that one continues to be fascinated by the failure of one's explanations creates a continuing cycle of thinking that is the crux of intelligence" (p. 231).
- 5) *Planning*: Most of the time we do not "reason[n] out a plan from first principles"; it is much easier to modify or copy old plans. However, Schank argues that "[t]he ability to create brand-new plans is one of the real hallmarks of intelligence" (p. 233).
- 6) *Communication*: "The ability to illustrate a point with one's own experiences is ... an important aspect of intelligence" (p. 234). Beyond that, it requires even greater intelligence to determine what is truly relevant to our listeners, to know what to leave out, what to add, and what to create anew.
- 7) *Integration*: "...[I]ntelligence along the dimension of integration means trying to get everything you see and hear to fit into your internal model of how the world works" (p. 239) and to be curious about those that do not fit. "...[T]he smartest of us becomes curious about certain aspects of what we encounter, and it is precisely those aspects that are worth focusing on" (p. 240).

As Schank closes his book, he returns to one of his areas of specialty: artificial intelligence. Published in 1990, his conclusions may be outdated. Still, they are fascinating. He argues that the day of interactive storytelling is coming, when computers "could tell different stories to different people in ways that those people could best understand," a kind of private tutor that "offe[rs] the prospect of increased individuality" in education (p. 243). I went to <http://www.rogerschank.com>, and learned that today Schank and Barcelona's La Salle University have created the Institute for the Learning Sciences, which claims to have a story-based curriculum. Learning through stories makes sense (remember that favorite history teacher who knew how to teach through stories?). I am interested to know how this is working and what success is being had. Moreover, Schank's concepts of stories and conversations are

important as I work to crystallize my own ideas about conversations and discourse in instruction. I am glad that I have read this interesting and important book.